

Illustrated Parts & Service Map

HP Elite 7300/7500 Microtower Business PC



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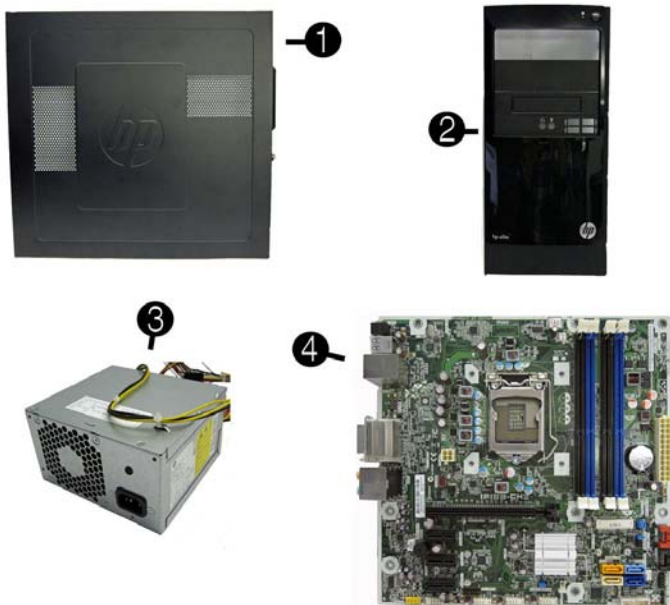
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Key Specifications

Processor Type	Intel® Core™ i7, i5, i3, Pentium, Celeron
RAM Type	PC3-10600 DDR3 (1066/1333 MHz), non-ECC (model 7300) PC3-12800 DDR3 (1600 MHz), non-ECC (model 7500)
Maximum RAM	16 GB
Expansion Slots	<ul style="list-style-type: none"> • (1) PCIe-x16 • (3) PCIe-x1 • (1) MiniPCI
Chipset	Intel H67 Express (model 7300) Intel Z75 Express (model 7500)
Graphics Adapter	Intel HD graphics
Bays	<ul style="list-style-type: none"> • (2) external 5.25-inch • (1) external 3.5-inch • (2) internal 3.5-inch
I/O Interfaces	Front: (2) USB 2.0, (2) USB 3.0, headphone, microphone Rear: (4) USB 2.0, DVI-I, DVI-D, VGA, PS/2 keyboard and mouse, audio in, microphone, 5.1/7.1 channel audio out, SPDIF Digital out, RJ-45, surround side/rear/center
Preinstalled Operating Systems	<ul style="list-style-type: none"> • Windows® 8 • Windows 7 • FreeDos

Spare Parts



System Unit

1	Access panel	657104-001
2	Front bezel	657112-001
3	Power supply, 300W	656721-001
System boards with thermal grease, alcohol pad, and CPU socket cover		
4	System board for use in 7300 models	656599-001
*	System board for use in 7500 models	687940-001
*	System board for use in 7500 models with Windows 8 with no Digital Product Key (DPK)	696887-001
*	System board for use in 7500 models with Windows 8 Standard	696887-501
*	System board for use in 7500 models with Windows 8 Professional	696887-601

* Not shown



Cables

1	Power switch/LED assembly	657105-001
2	SATA cable, 165 mm	657102-001
*	Adapter, DVI to VGA, HF	657401-001
*	Adapter, DVI to VGA, 29-pin, HF	657851-001
*	Antenna, for use with 2x2 WLAN modules	593890-001
*	Antenna, for use with 1x1 WLAN modules	701397-001

*Not shown



Miscellaneous Parts

1	Chassis fan	657103-001
2	Fan sink	657402-001
3	Front USB and I/O assembly	657113-001
*	Card reader, bezel blank	657853-001
*	Card reader, bezel	657854-001
*	RTC battery	319603-001
*	Rubber feet	530593-001

*Not shown

Mass Storage Devices (not illustrated)

16X SATA DVD±RW drive with	581600-001
Blu-ray BD-RW SuperMulti DL Drive	617030-001
Bezel, optical drive	657852-001
3 TB, 7200 rpm SATA hard drive	696961-001
3 TB, 5400 rpm SATA hard drive	668149-001
2 TB, 7200 rpm SATA hard drive	616608-001
2 TB, 5400 rpm SATA hard drive	613210-001
1.5 TB, 7200 rpm SATA hard drive, 6G	613209-001
1.5 TB, 5400 rpm SATA hard drive, 3G	652272-001
1 TB, 7200 rpm SATA hard drive	621418-001
750 GB, 7200 rpm SATA hard drive, 3G	632938-001
500 GB, 7200 rpm SATA hard drive, 3G	621421-001
320 GB, 7200 rpm SATA hard drive, 6G	621420-001
256 GB Solid-state drive (SSD)	661842-001
128 GB Solid-state drive (SSD)	665961-001
120 GB Solid-state drive (SSD)	661841-001

Standard and Optional Boards (not illustrated)

Memory modules (PC3-10600, CL9) for use in 7300 models		
*	1 GB	635802-001
*	2 GB	635803-001
*	4 GB	585157-001
Memory modules (PC3-12800, CL11) for use in 7500 models		
*	2 GB	671612-001
*	4 GB	671613-001
WLAN modules		
*	Ralink RT5390R 802.11bgn 1x1 Wi-Fi Adapter for use in models with Windows 8	634906-001
*	Ralink RT5390R 802.11bgn 1x1 Wi-Fi Adapter	701396-001
*	Atheros AR9462 802.11b/g/n WiFi Adapter	701398-001
*	Ralink RT3290LE 802.11bgn 1x1 Wi-Fi and Bluetooth 4.0 Combo Adapter	701399-001
Graphics adapters for use in models without Windows 8		
*	ATI Radeon HD 7570 2-GB graphics adapter for use only on 7500 models	679219-001
*	ATI Radeon HD 7450 1-GB graphics adapter for use only on 7500 models	679218-001
*	ATI Radeon HD 6570 2-GB graphics adapter, full height	638406-001
*	ATI Radeon HD 6570 1-GB graphics adapter, full height	638405-001
*	ATI Radeon HD 6450 1-GB graphics adapter	638132-001
*	ATI Radeon HD 6450 512-MB graphics adapter	647449-001
*	nVidia GeForce GT640 3-GB graphics adapter for use only on 7500 models	687226-001
*	nVidia GeForce GT630 2-GB graphics adapter for use only on 7500 models	687580-001
*	nVidia GeForce GT620 1-GB graphics adapter for use only on 7500 models	687579-001
*	nVidia GeForce GT545 3-GB graphics adapter, full height	657107-001
*	nVidia GeForce GT530 2-GB graphics adapter, full height	657106-001
*	nVidia GeForce GT520 1-GB graphics adapter, full height	657399-001
Graphics adapters for use in models with Windows 8		
*	ATI Radeon HD 7570 2-GB graphics adapter for use only on 7500 models	701403-001
*	ATI Radeon HD 7450 1-GB graphics adapter for use only on 7500 models	701402-001
*	nVidia GeForce GT640 3-GB graphics adapter for use only on 7500 models	701828-001
*	nVidia GeForce GT630 2-GB graphics adapter for use only on 7500 models	701405-001
*	nVidia GeForce GT620 1-GB graphics adapter for use only on 7500 models	701404-001
Intel Core i7 processors (include thermal material)		
*	3770K, 3.5 GHz, 8-MB L3 cache for use in only 7500 models	688165-001
*	3770, 3.4 GHz, 8-MB L3 cache for use in only 7500 models	688164-001
*	2600S, 2.8 GHz, 8-MB L3 cache	638419-001
Intel Core i5 processors (include thermal material)		
*	3570K, 3.4 GHz, 6-MB L3 cache for use in only 7500 models	688163-001
*	3570, 3.4 GHz, 6-MB L3 cache for use in only 7500 models	688162-001
*	3550, 3.3 GHz, 6-MB L3 cache for use in only 7500 models	687944-001
*	3470, 3.2 GHz, 6-MB L3 cache for use in only 7500 models	687943-001
*	3450, 3.1 GHz, 6-MB L3 cache for use in only 7500 models	687942-001
*	3330, 3.0 GHz, 6-MB L3 cache for use in only 7500 models	687941-001
*	2500S, 2.7 GHz, 6-MB L3 cache	638420-001
*	2500, 3.3 GHz, 6-MB L3 cache	638631-001
*	2400, 3.1 GHz, 6-MB L3 cache	638630-001
*	2310, 2.9 GHz, 6-MB L3 cache	657111-001
*	2300, 2.8 GHz, 6-MB L3 cache	654601-001
Intel Core i3 processors (include thermal material)		
*	3240, 3.4 GHz, 3-MB L3 cache	688951-001
*	3220, 3.3 GHz, 3-MB L3 cache	688950-001
*	2125, 3.3 GHz, 3-MB L3 cache	677427-001
Intel Pentium Dual-Core processors (include thermal material)		
*	G870, 3.1 GHz, 3-MB L3 cache	691936-001
*	G640, 2.8 GHz, 3-MB L3 cache	691935-001
Intel Celeron processor (include thermal material)		
*	G55, 3.3 GHz, 2-MB L3 cache	691934-001

System Setup and Boot

Access the Setup Utility during computer boot by pressing the **F10** key. If you do not press **F10** at the appropriate time, you must restart the computer and again press **F10** when the monitor light turns green. NOTE: Not all settings are available for all models.

Computer Setup Menu

Heading	Option/Description
File	System Information - Lists the following main system specifications: <ul style="list-style-type: none"> Product name SKU number (some models) Processor type/speed/stepping Cache size (L1/L2/L3) Installed memory size/speed/ch Integrated MAC Address System BIOS Chassis serial number Asset tracking number ME firmware version ME management mode
	About - Displays copyright notice.
	Set Time and Date - Allows you to set system time and date.
	Replicated Setup - Allows you to save or restore system configuration to/from a USB flash drive.
	Default Setup - Allows you to save current settings as default or restore factory settings as default.

File <i>(continued)</i>	Apply Defaults and Exit - Applies the selected default settings and clears any established passwords.	
	Ignore Changes and Exit - Exits Computer setup without saving changes.	
	Save Changes and Exit - Saves changes to system configuration or default settings and exits Computer Setup.	
Storage	Device Configuration - Lists all installed BIOS-controlled storage devices. The following options are available: <ul style="list-style-type: none"> CD-ROM Hard Disk Default Values Translation Mode SSD Life Used SMART (ATA disks only) Diskette SATA Defaults 	
	Storage Options - Allows you to set: <ul style="list-style-type: none"> eSATA Port - Set SATA port as eSATA port for use with external drive. SATA Emulation - Choose how the SATA controller and devices are accessed by the OS. SATA Emulation choices are AHCI, RAID, or IDE. Removable Media Boot - Enables/disables ability to boot the system from removable media. Max eSATA Speed - Allows you to choose 1.5 Gbps or 3.0 Gbps as the maximum eSATA speed. By default, the speed is limited to 1.5 Gbps for maximum reliability. 	
	DPS Self-Test - Execute self-tests on ATA hard drives capable of performing the Drive Protection System (DPS) self-tests.	
	Boot Order - Specify boot order for UEFI and legacy boot sources. Also specify hard drive boot order. <ul style="list-style-type: none"> Shortcut to Temporarily Override Boot Order 	
Security	Setup Password - Set and enable the setup (Admin) password.	
	Power-On Password - Set and enable power-on password.	
	Password Options - Allows you to enable/disable: <ul style="list-style-type: none"> Lock Legacy Resources Setup Browse Mode Password prompt on F9 & F12 Network Server Mode 	
	Smart Cover - Allows you to lock/unlock the smart cover and set the cover removal sensor to disable/notify user/setup password.	
	Device Security - Set Device Available/Device Hidden for: embedded security device, system audio, network controller, USB controller, serial/parallel ports, and SATA ports.	
	USB Security - Set Device Available/Device Hidden for front USB ports, rear USB ports, internal USB ports, accessory USB ports.	
	Slot Security - Disable the PCI, PCIe, and Mini Card slots.	
	Network Boot - Enables/disables boot from OS (NIC models only).	
	System IDs - Allows you to update asset tag, ownership tag, UUID, keyboard locale setting.	
	Master Boot Record Security - enables/disables MBR.	
Power	System Security - Allows you to set: <ul style="list-style-type: none"> Data Execution Prevention (enable/disable) SVM CPU Virtualization (enable/disable) Virtualization Technology (VTx) (enable/disable) Virtualization Technology/Directed IO (VTd) (enable/disable) Trusted Execution Technology (enable/disable) Embedded Security Device (enable/disable) Reset to Factory Settings (Do not reset/Reset) Measure boot variables/devices to PCR1 (enable/disable) OS management of Embedded Security Device (enable/disable) Reset of Embedded Security Device through OS (enable/disable) No PPI provisioning (Windows 8 only; enable/disable) Allow PPI policy to be changed by OS (enable/disable) 	
	DriveLock Security - Allows you to assign or modify a master or user password for hard drives.	
	Secure Boot Configuration (Windows 8 only) <ul style="list-style-type: none"> Legacy Support (enable/disable) Secure Boot (enable/disable) Key Management (enable/disable) Fast Boot (enable/disable) 	
	OS Power Management - Allows you to enable/disable Runtime Power Management, Idle Power Savings, Unique Sleep State Blink Rates.	
	Hardware Power Management - Enable/disable SATA power management, S5 maximum power savings., PCI slots, network controller, USB 3.0 controller	
	Thermal - Control minimum fan speed.	
	Advanced	Power-On Options - Allows you to set: <ul style="list-style-type: none"> POST mode (QuickBoot, Clear Memory, FullBoot, or FullBoot Every x Days) POST messages (enable/disable) Press the ESC key for Startup Menu (enable/disable) Option ROM Prompt (enable/disable) After Power Loss (off/on/previous state) POST Delay (none, 5, 10, 15, 20, or 60 seconds) Remote Wakeup Boot Source (remote server/local hard drive) Factory Recovery Boot Support (enable/disable) Bypass F1 Prompt on Configuration Changes (enable/disable)
		BIOS Power-On - Set the computer to turn on at a preset time.
		Bus Options - Allows you to enable/disable PCI SERR# Generation and PCI VGA palette snooping.
		Onboard Devices - Allows you to set resources for or disable on-board system devices.
Device Options - Allows you to set: <ul style="list-style-type: none"> Printer mode (Bi-Directional, EPP + ECP, Output Only) Num Lock State at Power-on (off/on) Integrated Video (enable/disable) Integrated Graphics (Auto/Disable/Force) Internal Speaker (enable/disable) NIC PXE Option ROM Download (enable/disable) SATA RAID Option ROM Download (enable/disable) Multi-Processor (enable/disable) Hyper-threading (enable/disable) Turbo Mode (enable/disable) 		
VGA Configuration - Allows you to specify which VGA controller is the "boot"/primary. Displayed only if add-in video card installed.		
AMT Configuration - Allows you to set: <ul style="list-style-type: none"> AMT (enable/disable) Unconfigure AMT/ME (enable/disable) Hide Unconfigure ME Confirmation Prompt (enable/disable) Watchdog Timer (enable/disable) 		

Common POST Error Messages

Screen Message	Probable Cause	Recommended Action
101-Option ROM Error	System ROM or expansion board option ROM checksum.	<ol style="list-style-type: none"> 1. Verify ROM, reflash if required 2. Remove recently added cards to see if problem remains. 3. Clear CMOS. If message disappears, may be card problem. 4. Replace system board
103-System Board Failure	DMA or timers	<ol style="list-style-type: none"> 1. Clear CMOS memory. 2. Remove expansion boards. 3. Replace system board.
163-Time & Date Not Set	Invalid time or date in configuration memory. RTC battery may need to be replaced.	Reset the date and time under Control Panel (Computer Setup can also be used). If the problem persists, replace the RTC battery.
164-Memory Size Error	Memory amount has changed since the last boot (memory added/removed).	Press the F1 key to save the memory changes.
164-Memory Size Error	Incorrect memory configuration	<ol style="list-style-type: none"> 1. Run Setup (F10). 2. Make sure memory module(s) installed properly. 3. If third-party memory added, test using HP-only memory. <ol style="list-style-type: none"> 1. Verify proper module type.
201-Memory Size Error	RSM failure	<ol style="list-style-type: none"> 1. Ensure memory modules are correctly installed. 2. Verify proper module type. 3. Remove and replace faulty module(s). 4. If error persists after replacing modules, replace system board.
214-DIMM Configuration Warning	Populated DIMM configuration is not optimized	Rearrange DIMMs so that each channel has the same amount of memory.
219-ECC Memory Module Detected ECC Modules not supported on this Platform	Recently added memory module(s) support ECC memory error correction.	<ol style="list-style-type: none"> 1. If additional memory was recently added, remove it to see if the problem remains. 2. Check product documentation for memory support information.
301-, 304-Key-board error	Keyboard failure.	<ol style="list-style-type: none"> 1. Reconnect keyboard with system turned off. 2. Check kybd connection or keys. 3. Check connector for bent or missing pins. 4. Replace keyboard. 5. If 304, possible sys bd problem.
511-CPU Fan not Detected	CPU Fan not Detected.	<ol style="list-style-type: none"> 1. Reseat CPU fan. 2. Reseat fan cable. 3. Replace CPU fan.
1805-Ambient Temperature Previously Over Limit	This system was placed in a low power state to prevent damage due to excessive environmental temperature.	<p>Make sure the system meets the HP enclosure guidelines as listed in the Quick Specs, including the following:</p> <ol style="list-style-type: none"> 1. Clean the air vents on the front, back, or any other vented side of the computer. 2. Ensure that there is a 10.2 cm (4 in) clearance on all vented sides of the computer to permit the required airflow. 3. Ensure that computers are not so near each other that they are subject to each other's re-circulated or preheated air.
2200-PMM Allocation Error during MEBx Download	(2200) Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM.	<ol style="list-style-type: none"> 1. Reboot the computer. 2. Unplug the power cord, re-seat the memory modules, and reboot the computer. 3. If the memory configuration was recently changed, unplug the computer, restore the original memory configuration, and reboot the computer. 4. If the error persists, replace the system board.
2201-MEBx Module did not checksum correctly	(2201) Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM.	
2202-PMM Deallocation Error during MEBx cleanup	(2202) Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM.	
2230-General error during MEBx execution	(2230) Error occurred during MEBx execution which falls into the "General" grouping. Status information displayed along with the error provides further clarity into the failure. MEBx handles transference of information between the system BIOS and ME firmware.	<ol style="list-style-type: none"> 1. Reboot the computer. 2. If the error persists, update to the latest BIOS version and ME firmware version. 3. If the error still persists, replace the system board.
2231-ME error during MEBx execution	(2231) Error occurred during MEBx execution which falls into "ME" grouping.	
2232-AMT error during MEBx execution	(2232) Error occurred during MEBx execution which falls into "AMT" grouping.	

Diagnostic LEDs

LED	Color	LED Activity	State/Message
Power	Green	On	Computer on
Power	Green	1 blink every 2 seconds	Normal Suspend Mode
Power	Red	1 blink every second followed by a 2 second pause	CPU thermal shutdown
Power	Red	3 blinks, 1 blink every second followed by a 2 second pause	Processor not installed
Power	Red	4 blinks, 1 blink every second followed by a 2 second pause	Power failure (power supply overload)
Power	Red	5 blinks, 1 blink every second followed by a 2 second pause	Pre-video memory error
Power	Red	6 blinks, 1 blink every second followed by a 2 second pause	Pre-video graphics error
Power	Red	7 blinks, 1 blink every second followed by a 2 second pause	System board failure (ROM)
Power	Red	8 blinks, 1 blink every second followed by a 2 second pause	Invalid ROM based on Checksum
Power	Red	9 blinks, 1 blink every second followed by a 2 second pause	System powers on but is unable to boot
Power	Red	10 blinks, 1 blink every second followed by a 2 second pause	Bad option card
Power	Red	11 blinks, 1 blink every second followed by a 2 second pause	Current processor does not support a feature previously enabled.
none	none	System does not power on and LEDs are not flashing	System unable to power on

Password Security

Establishing a Setup or Power-On password:

1. Turn on or restart the computer.
2. As soon as the computer turns on, press the **Esc** key while "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.
3. Press the **F10** key to enter Computer Setup.
4. To establish Setup password, select **Security > Setup Password** and follow the instructions.
 - or -
 - To establish a Power-On password, select **Security > Power-On Password** and follow the instructions on the screen
5. Before exiting, click **File > Save Changes and Exit**.

Changing a Setup or Power-On password:

1. Turn on or restart the computer.
- To change the Setup password, go to step 2.
To change the Power-on password, go to step 3.
2. To change the Setup password, as soon as the computer turns on:
 - Press the **Esc** key while "Press the ESC key for Startup Menu" message is displayed.
 - Press the **F10** key to enter Computer Setup.
 3. When the key icon appears, type your current password, a slash (/) or alternate delimiter character, your new password, another slash (/) or alternate delimiter character, and your new password again as shown:

current password/new password/new password.

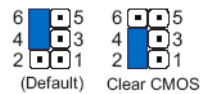
NOTE: Type the new password carefully since the characters do not appear on the screen.
 4. Press **Enter**.
- The new password will take effect the next time the computer is restarted.

Deleting a Power-On or Setup password

1. Turn on or restart the computer.
- To delete the Setup password, go to step 2.
To delete the Power-On password, go to step 3.
2. To change the Setup password, as soon as the computer turns on:
 - Press the **Esc** key while "Press the ESC key for Startup Menu" message is displayed.
 - Press the **F10** key to enter Computer Setup.
 3. When the key icon appears, type your current password followed by a slash (/) or alternate delimiter character as shown. Example: currentpassword/
 4. Press **Enter**.

Clearing CMOS

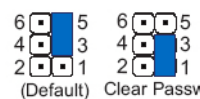
1. Turn off the computer and disconnect the power cord from the power outlet.
2. Remove the access panel.
3. On the system board, locate the CMOS/password header.
4. Remove the jumper from pins 4 and 6.
5. Place the jumper on pins 4 and 2 for 10-15 seconds.
6. Replace the jumper on pins 4 and 6.



7. Replace the chassis access panel and reconnect the power cord.
8. Turn on the computer and allow it to start.
9. Use F10 setup to verify or configure new settings.

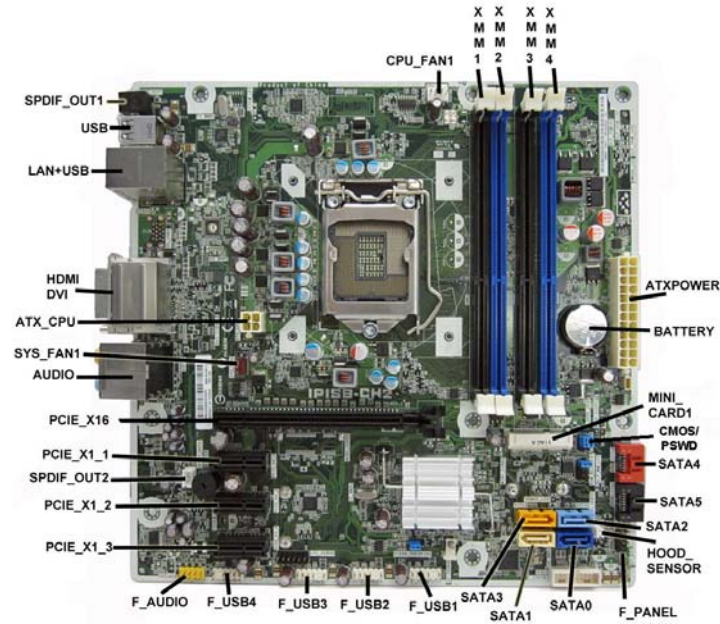
Clearing Passwords

1. Turn off the computer and disconnect the power cord from the power outlet.
2. Remove the access panel.
3. On the system board, locate the CMOS/password header.
4. Remove the jumper from pins 5 and 3.
5. Place the jumper on pins 3 and 1 for 10-15 seconds.
6. Replace the jumper on pins 5 and 3.

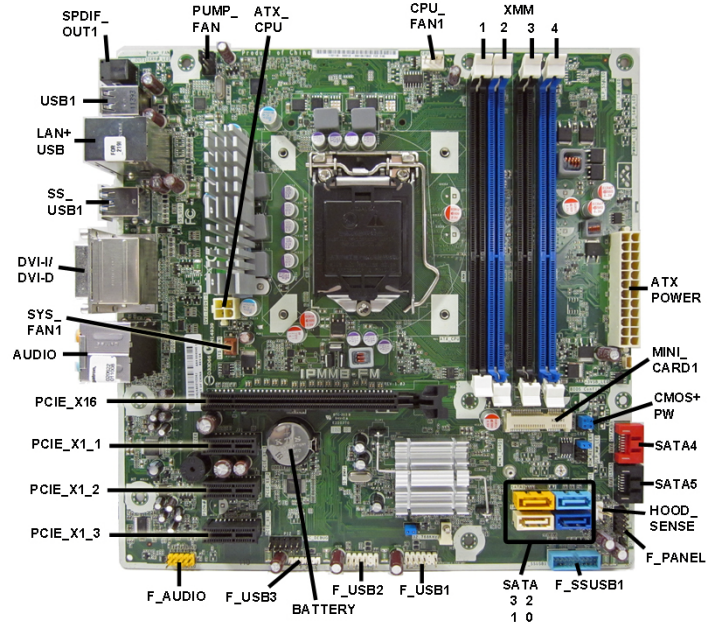


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System Board for use in HP Pro 7300 models



System Board for use in HP Pro 7500 models



System Board Connectors and Jumpers (component location may vary)

CPU_FAN1	Heat sink fan connector	F_USB1	1st USB connector
XMM1	Memory socket - channel A	F_USB2	2nd USB connector
XMM2	Memory socket - channel B	F_USB3	3rd USB connector
XMM3	Memory socket - channel A	F_USB4	4th USB connector
XMM4	Memory socket - channel B	F_AUDIO	Front audio connector
ATXPOWER	Main power connector	PCIEX1_3	PCIe X1 slot
BATTERY	RTC battery socket	PCIEX1_2	PCIe X1 slot
MINI_CARD1	Mini PCIe connector	SPDIF_OUT2	Internal SPDIF connector
CMOS/PSWD	CMOS/password header	PCIEX1_1	PCIe X1 slot
SATA4	SATA drive	PCIEX16	PCIe X16 slot
SATA5	SATA drive	AUDIO	Audio connectors
SATA2	1st optical drive	SYS_FAN1	Fan connector
HOOD_SENSOR	Hood sensor connector	ATX_CPU	CPU power connector
F_PANEL	Front panel connector	HDMI/DVI	Combo HDMI/DVI connector
SATA0	1st hard drive	LAN+USB	LAN + USB connector
SATA1	2nd hard drive	USB	USB connectors
SATA3	2nd optical drive	SPDIF_OUT21	External SPDIF connector

System Board Connectors and Jumpers (component location may vary)

SPDIF_OUT1	Internal SPDIF connector	SATA2	1st optical drive
PUMP_FAN	CPU cooler connector	SATA3	2nd optical drive
ATX_CPU	CPU power connector	F_USB1	1st USB connector
CPU_FAN1	Heat sink fan connector	F_USB2	2nd USB connector
XMM1	Memory socket - channel A	BATTERY	RTC battery socket
XMM2	Memory socket - channel B	F_USB3	3rd USB connector
XMM3	Memory socket - channel A	F_AUDIO	Front audio connector
XMM4	Memory socket - channel B	PCIEX1_3	PCIe X1 slot
ATXPOWER	Main power connector	PCIEX1_2	PCIe X1 slot
MINI_CARD1	Mini PCIe connector	PCIEX1_1	PCIe X1 slot
CMOS/PW	CMOS/password header	PCIEX16	PCIe X16 slot
SATA4	SATA drive	AUDIO	Audio connectors
SATA5	SATA drive	SYS_FAN1	Fan connector
HOOD_SENSE	Hood sensor connector	DVI-D//DVI-I	Combo HDMI/DVI connector
F_PANEL	Front panel connector	SS_USB1	USB 3.0 connectors
F_SSUSB1	Internal USB 3.0 connector	LAN+USB	LAN + USB connector
SATA0	1st hard drive	USB1	USB 2.0 connectors
SATA1	2nd hard drive		